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With respect to the bonding agent or composition, the bonding agent or composition contains a compound capable of dissolving the thermoplastic material forming the core of the plank. Also, if a spline is used, the spline material can be chosen to interact with the bonding agent so that the edges of the core of the plank and spline are all welded together into a joint. These compounds are typically considered solvents. Preferred examples of the solvents include, but are not limited to, tetrahydrofuran (THF), cyclohexanone, methylene chloride, dimethyl formamide, toluene, acetone, ethylene dichloride, methyl ethyl ketone, n-methyl pyrrolidone, methyl isobutyl ketone, dipropyl ketone, isophorone, methyl amyl ketone, nitrobenzene, methyl cyclohexanone, and acetonyl acetone. Preferably, the solvent is tetrahydrofuran or a methyl alkyl ketone or an alkyl alkyl ketone. Mixtures of two or more solvents can be used to form the bonding agent or composition. For instance, tetrahydrofuran and methyl alkyl ketone can be used as a mixture in any ratio. Preferably, the tetrahydrofuran is present in a higher amount than the methyl alkyl ketone, such as methyl ethyl ketone. Preferably, the ratio of tetrahydrofuran to methyl ethyl ketone is 9:1 to 1:1 based on a weight percent. Other combinations of solvents can also be present in the bonding agent or composition. Depending upon the particular thermoplastic forming the core of the plank, certain solvents are more effective in increasing the bonding strength between two connected planks. For instance, when the core is made of polyvinyl chloride, tetrahydrofuran is quite effective as well as methyl ethyl ketone and nitrobenzene. When the thermoplastic forming the core is an acrylonitrile-butadiene-styrene polymer (ABS resin), methylene chloride, toluene, acetone, ethylene dichloride, methyl ethyl ketone, and/or tetrahydrofuran are quite effective in achieving high bonding strengths between two connected planks or tiles. It is within the bounds of the application to include mixtures of various solvents as long as the solvents do not negatively affect the ability to